

Grape

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A **grape** is a non-climacteric fruit, specifically a berry, that grows on the perennial and deciduous woody vines of the genus *Vitis*. Grapes can be eaten raw or they can be used for making jam, juice, jelly, vinegar, wine, grape seed extracts, raisins, molasses and grape seed oil.

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Grape



"White" table grapes

Grapes, purple or green

Nutritional value per 100 g (3.5 oz)

Energy	288 kJ (69 kcal)
Carbohydrates	18.1 g
 - Sugars	15.48 g
 - Dietary fiber	0.9 g
Fat	0.0 g
Protein	0.72 g
Thiamine (vit. B ₁)	0.069 mg (6%)
Riboflavin (vit. B ₂)	0.07 mg (6%)
Niacin (vit. B ₃)	0.188 mg (1%)
Pantothenic acid (B ₅)	0.05 mg (1%)
Vitamin B ₆	0.086 mg (7%)
Folate (vit. B ₉)	2 µg (1%)
Vitamin B ₁₂	0 µg (0%)
Vitamin C	10.8 mg (13%)
Vitamin K	22 µg (21%)
Calcium	10 mg (1%)
Iron	0.36 mg (3%)
Magnesium	7 mg (2%)

History

The cultivation of the domesticated grape began 6,000 -8,000 years ago in the Near East.^[1] Yeast, one of the earliest domesticated microorganisms, occurs naturally on the skins of grapes, leading to the innovation of alcoholic drinks such as wine. First traces of red wine are seen in ancient Armenia where apparently, to date, the oldest winery was found, dating to around 4,000 BC. By the 9th century AD the city of Shiraz was known to produce some of the finest wines in the Middle east. Thus it has been proposed that Syrah red wine is named after Shiraz, a city in Persia where the grape was used to make Shirazi wine. Ancient Egyptian hieroglyphics record the cultivation of purple grapes, and history attests to the ancient Greeks, Phoenicians and Romans growing

purple grapes for both eating and wine production. Later, the growing of grapes spread to Europe, North Africa, and eventually North America.

Native purple grapes belonging to the *Vitis* genus proliferated in the wild across North America, and were a part of the diet of many Native Americans, but were considered by European colonists to be unsuitable for wine. The first Old World *Vitis vinifera* purple grapes were cultivated in California.
^[citation needed]

Manganese	0.071 mg (3%)
Phosphorus	20 mg (3%)
Potassium	191 mg (4%)
Sodium	3.02 mg (0%)
Zinc	0.07 mg (1%)

Percentages are relative to US recommendations for adults.

Source: USDA Nutrient Database
(<http://www.nal.usda.gov/fnic/foodcomp/search/>)

Description

Grapes are a type of fruit that grow in clusters of 15 to 300, and can be crimson, black, dark blue, yellow, green, orange, and pink. "White" grapes are actually green in color, and are evolutionarily derived from the purple grape. Mutations in two regulatory genes of white grapes turn off production of anthocyanins which are responsible for the color of purple grapes.^[2] Anthocyanins and other pigment chemicals of the larger family of polyphenols in purple grapes are responsible for the varying shades of purple in red wines.^{[3][4]} Grapes are also used in some kinds of confectionery. Grapes are typically an ellipsoid shape resembling a prolate spheroid.

Grapevines

Main article: Vitis

Most grapes come from cultivars of *Vitis vinifera*, the European grapevine native to the Mediterranean and Central Asia. Minor amounts of fruit and wine come from American and Asian species such as:

- *Vitis labrusca*, the North American table and grape juice grapevines (including the concord cultivar), sometimes used for wine, are native to the Eastern United States and Canada.
- *Vitis riparia*, a wild vine of North America, is sometimes used for winemaking and for jam. It is native to the entire Eastern U.S. and north to Quebec.
- *Vitis rotundifolia*, the muscadines, used for jams and wine, are native to the Southeastern United States from Delaware to the Gulf of Mexico.
- *Vitis amurensis* is the most important Asian species.



Yaquti Grapes production in 2008, Iran.

Distribution and production











According to the Food and Agriculture Organization (FAO), 75,866 square kilometres of the world are dedicated to grapes. Approximately 71% of world grape production is used for wine, 27% as fresh fruit, and 2% as dried fruit. A portion of grape production goes to producing grape juice to be reconstituted for fruits canned "with no added sugar" and "100% natural". The area dedicated to vineyards is increasing by about 2% per year.

The following table of top wine-producers shows the corresponding areas dedicated to grapes for wine making:

Country	Area dedicated
Spain	11,750 km ²
France	8,640 km ²
Italy	8,270 km ²
Turkey	8,120 km ²
United States	4,150 km ²
Iran	2,860 km ²
Romania	2,480 km ²
Portugal	2,160 km ²
Argentina	2,080 km ²
Chile	1,840 km ²
Australia	1,642 km ²
Armenia	1,459 km ²
Lebanon	1,122 km ²



Concord is a variety of North American *labrusca* grape

Top Ten Grapes Producers – 8 October 2009		
Country	Production (Tonnes)	Footnote
 Italy	8,519,418	F
 China	6,787,081	F
 United States	6,384,090	F
 France	6,044,900	F
 Spain	5,995,300	F
 Turkey	3,612,781	F
 Iran	3,000,000	F
 Argentina	2,900,000	F
 Chile	2,350,000	F
 India	1,667,700	F
World	67,221,000	A

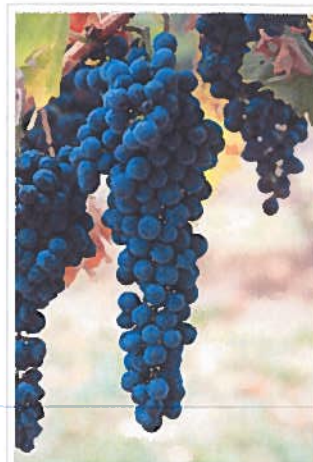
No symbol = official figure, P = official figure, F = FAOSTAT 2007, * = Unofficial/Semi-official/mirror data, C = Calculated figure, A = Aggregate (may include official, semi-official or estimates);

Source: Food And Agricultural Organization of United Nations: Economic And Social Department: The Statistical Division (<http://faostat.fao.org/site/567/DesktopDefault.aspx?PageID=567#anchor>)

There are no reliable statistics that break down grape production by variety. It is, however, believed that the most widely planted variety is Sultana, also known as Thompson Seedless, with at least 3,600 km². (880,000 acres) dedicated to it. The second most common variety is Airén. Other popular varieties include Cabernet Sauvignon, Sauvignon blanc, Cabernet Franc, Merlot, Grenache, Tempranillo, Riesling and Chardonnay.^[5]

Table and wine grapes

Commercially cultivated grapes can usually be classified as either table or wine grapes, based on their intended method of consumption: eaten raw (table grapes) or used to make wine (wine grapes). While almost all of them belong to the same species, *Vitis vinifera*, table and wine grapes have significant differences, brought about through selective breeding. Table grape cultivars tend to have large, seedless fruit (see below) with relatively thin skin. Wine grapes are smaller, usually seeded, and have relatively thick skins (a desirable characteristic in winemaking, since much of the aroma in wine comes from the skin). Wine grapes also tend to be very sweet: they are harvested at the time when their juice is approximately 24% sugar by weight. By comparison, commercially produced "100% grape juice", made from table grapes is usually around 15% sugar by weight.^[6]



Wine grapes on the vine

Seedless grapes

Although grape seeds contain many nutrients, some consumers choose seedless grapes; seedless cultivars now make up the overwhelming majority of table grape plantings. Because grapevines are vegetatively propagated by cuttings, the lack of seeds does not present a problem for reproduction. It is, however, an issue for breeders, who must either use a seeded variety as the female parent or rescue embryos early in development using tissue culture techniques.

There are several sources of the seedlessness trait, and essentially all commercial cultivators get it from one of three sources: Thompson Seedless, Russian Seedless, and Black Monukka, all being cultivars of *Vitis vinifera*. There are currently more than a dozen varieties of seedless grapes. Several, such as Einset Seedless, Reliance and Venus, have been specifically cultivated for hardiness and quality in the relatively cold climates of northeastern United States and southern Ontario.^[7]

An offset to the improved eating quality of seedlessness is the loss of potential health benefits provided by the enriched phytochemical content of grape seeds (see Health claims, below).^{[8][9]}

Raisins, currants and sultanas

In most of Europe, dried grapes are referred to as "raisins" or the local equivalent. In the UK, three different varieties are recognized, forcing the EU to use the term "Dried vine fruit" in official documents.

A *raisin* is any dried grape. While *raisin* is a French loanword, the word in French refers to the fresh fruit; *grappe* (from which the English *grape* is derived) refers to the bunch (as in *une grappe de raisins*).

A *currant* is a dried Zante Black Corinth grape, the name being a corruption of the French *raisin de Corinthe* (Corinth grape). *Currant* has also come to refer to the blackcurrant and redcurrant, two berries unrelated to grapes.

A *sultana* was originally a raisin made from Sultana grapes of Turkish origin (known as Thompson Seedless in the United States), but the word is now applied to raisins made from either white grapes, or red grapes which are bleached to resemble the traditional sultana.



Raisins